



Alteration of Terrain Rules

Source Control Plans for High-Load Areas

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Why Source Control Plans?



② 2,200 sites impacting groundwater (DES ORCB, 2007)

② Pollution prevention (e.g., Source Control Plan) is less expensive and less complex than monitoring or remediating contaminants released to groundwater or surface water





Source Control Plans Are Required for “High-Load Areas,” which include ...

- ④ Any land use or activity in which **regulated substances**¹ are exposed to rainfall or runoff
- ④ Any land use or activity that typically generates higher concentrations of hydrocarbons, metals, or suspended solids than are otherwise found in typical stormwater runoff

Partial List of High-Load Areas Env-Wq 1502.26

- ✓ Petroleum dispensing facilities
- ✓ Vehicle fueling facilities
- ✓ Vehicle service, maintenance and equipment cleaning facilities
- ✓ Fleet storage areas
- ✓ Public works storage areas
- ✓ Road salt facilities
- ✓ Commercial nurseries

¹ **Regulated substances** are defined in Env-Wq 401 *Best Management Practices for Groundwater Protection*

What's a Regulated Substance?



- Ⓢ Chemicals regulated by the Environmental Protection Agency & the NH Dept. of Environmental Services.
- Ⓢ Includes pesticides, herbicides, paints, thinners, gas and oil, degreasers.



Source Control Plans for High Load Areas: *Segregate & Minimize Exposure*

- ④ Develop a plan that demonstrates that the site is designed and operated to prevent exposure of regulated substance to precipitation/runoff (taking into account possible spills).

Or

- ④ Submit a stormwater pollution prevention plan (SWPPP) developed under a NPDES stormwater permit. (29 industrial sectors, see EPA at <http://cfpub.epa.gov/npdes/stormwater/swcats.cfm>)



Source Control Plans for High Load Areas: Narrative and Plat

② **Narrative.** Overview how source controls will prevent or minimize regulated substances from mixing with clean stormwater;

② **Plat (plan).** Show design elements and location of structural controls

Source Control Plan Elements (partial list)

- ✓ Plan Overview
- ✓ List of regulated substances (5 gallons or more);
- ✓ Location groundwater protection areas within 1,000 ft of the site perimeter;
- ✓ Drainage area with exposed regulated substances and the location of stormwater practice(s) or discharge point(s) serving those areas;
- ✓ Location and containment method for regulated substances;
- ✓ Spill control and containment measures
- ✓ Snow storage areas
- ✓ Employee training for implementation of plan



Source Control Plans for High-load Areas: Plat and Narrative

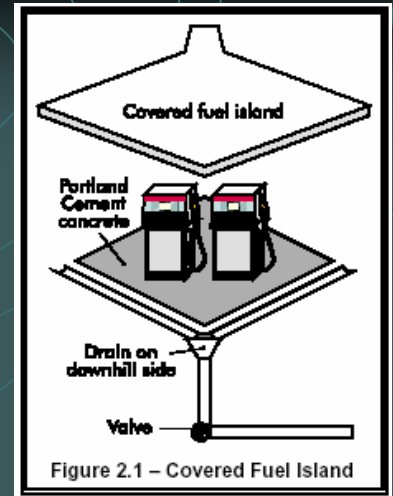
Structural controls – place on plat

- ☉ Grade changes and berms (to reduce runoff / run-on)
- ☉ Enclosures or covers (for pollutant sources) – roofs, canopies
- ☉ Impervious surfaces with positive limiting barriers

Operational practices – describe in narrative

- ☉ Practices to prevent equipment leaks and drips
- ☉ Spill containment at loading docks or transfer areas
- ☉ Spill response plans and employee training

Fuel Dispensing Facilities: BMPs to Reduce Exposure to Regulated Substance



Structural BMPs/Design Elements for Plat

- ☉ Concrete fueling pad with positive limiting barriers
- ☉ Canopy extending beyond concrete fueling pad
- ☉ Grade breaks to prevent runoff or run-on to fueling pad
- ☉ Shutoff valve to stormwater practice in the event of a spill
- ☉ Spill control materials near fueling areas

Fuel Dispensing Area: Examples of Structural Controls

This engineering plan view illustrates various structural controls for a fuel dispensing area. The central feature is a rectangular fueling pad outlined in red, which drains through a roof drain into a city sewer. To the left, a curved curb limits vehicle run-on. A yellow starburst indicates spill control materials at the canopy's edge. Inside the canopy, grooves act as positive limiting barriers. The entire area is on a concrete pad. Surrounding infrastructure includes stormwater management features like catch basins (CB-7, CB-8, CB-6), a stormceptor (STC-1), silt fences, and oil/water separators. Elevation points are marked throughout the site.

Fueling pad (high load area) drains discharge to city sewer

Overhead canopy

Spill control materials

Concrete pad (impervious surface)

Grade to limit run-on

Spill containment grooves inside canopy (positive limiting barriers)

[illegible]

Grade to limit run-on

Spill control materials

Spill containment grooves inside canopy (positive limiting barriers)

Concrete pad (impervious surface)

Spill containment grooves inside canopy (positive limiting barriers)

Spill control materials

Concrete pad (impervious surface)

Technical drawing details include:
 - Elevation points: 521.10, 521.5, 521.75, 521.24, 522.50, 521.01, 520.65, 520.40, 519.77, 514.28, 514.22, 514.92.
 - Dimensions: 16'32'09"E, 12', 5'.
 - Labels: PROP. CB-8, RIM=520.40, INV.IN=514.28, INV.IN=514.22, INV.OUT=514.05, PROP. DMH-2, APPROXIMATE LOCATION OF SEWER SERVICE, GRADE BREAK, INV.=519.20, INV.=514.92.
 - Features: A blue hatched area representing a canopy, a yellow dashed line indicating a boundary, and a red line indicating a spill control material placement.

Source Control Plans: Describe Best Management Practices (BMPs) within a Source Control Plan Narrative



- ☉ Describe BMPs for storage, transfer or handling regulated substances (waste oil, used antifreeze) – See Env-Wq 401
- ☉ List good housekeeping procedures – (e.g., “Spot cleaning” leaks and drips routinely)
- ☉ Preventative maintenance (inspections, etc.)
- ☉ Describe employee training program to respond to spill or emergency
- ☉ Note: Owner must certify compliance with source control plan every three years

Operate and Design for Compliance with Env-Wq 401 BMPs for Regulated Substances



Containers with Regulated Substances > 5 gallons

- _____ Container stored on impervious surface.
- _____ Inspect impervious surface for cracks and holes.
- _____ Inspect storage areas for signs of spills and leaks.
- _____ Inspect all sides of container, must be ample room to do so.
- _____ Container clearly labeled, closed and sealed.
- _____ Drip pan under spigot, valve or pump.
- _____ Appropriate equipment on hand for transfer of regulated substance & transfer performed over impervious surface.
- _____ Spill control and containment equipment readily available.
- _____ Outside storage area permanently covered.
- _____ Outside secondary containment equals 110% and permanently covered.
- _____ Sewered or septic? Check for manhole covers, leachbed vents, stormdrains, wells
- _____ Floor drains and work sinks either no discharge or discharge to a holding tank.
- _____ Release response information available and complete.

See <http://des.nh.gov/organization/divisions/water/dwgb/dwspp/bmps/index.htm>



Guidance on BMPs

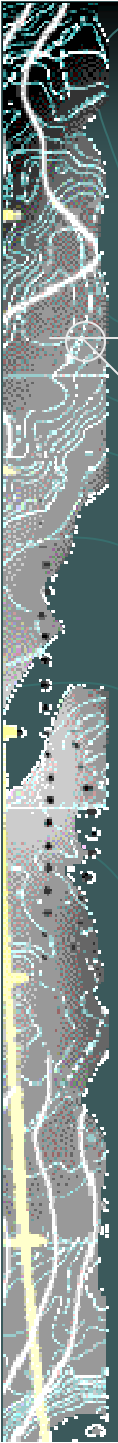
- 🌀 New Hampshire BMP requirements (Env-W 401) for regulated substances

<http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/wd-06-47.pdf>

- 🌀 2005 Stormwater Management Manual for Western Washington: Volume IV -- Source Control BMPs

<http://www.ecy.wa.gov/pubs/0510032.pdf>

BMPs by Industry... Volume IV -- Source Control BMPs



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Source Control Plans : Main Points

- Source Control plans required for “High Load Areas” (statewide)
- Narrative should describe use of regulated substances, operational practices to minimize exposure/release of regulated substances
- Plat should show high load areas, drainage and structural controls to segregate regulated substances
- Plan to meet minimum BMPs -- Env-Wq 401 Best Management Practices for Groundwater Protection

Keep in mind that infiltration or filtration practices may not be allowed ...

- ☉ ...when stormwater comes from gasoline (fuel) dispensing areas.
- ☉ ...when stormwater comes from high load areas in groundwater protection areas.
- ☉ ...in areas where groundwater or soil is contaminated as defined under Env-Or 600.





Noteworthy Water Supply Protections in AOT Rules (Env-Wq 1500)

② *“Water supply intake protection areas”*

- ¼ mile of a surface water intake, 250 ft of a source water within the watershed

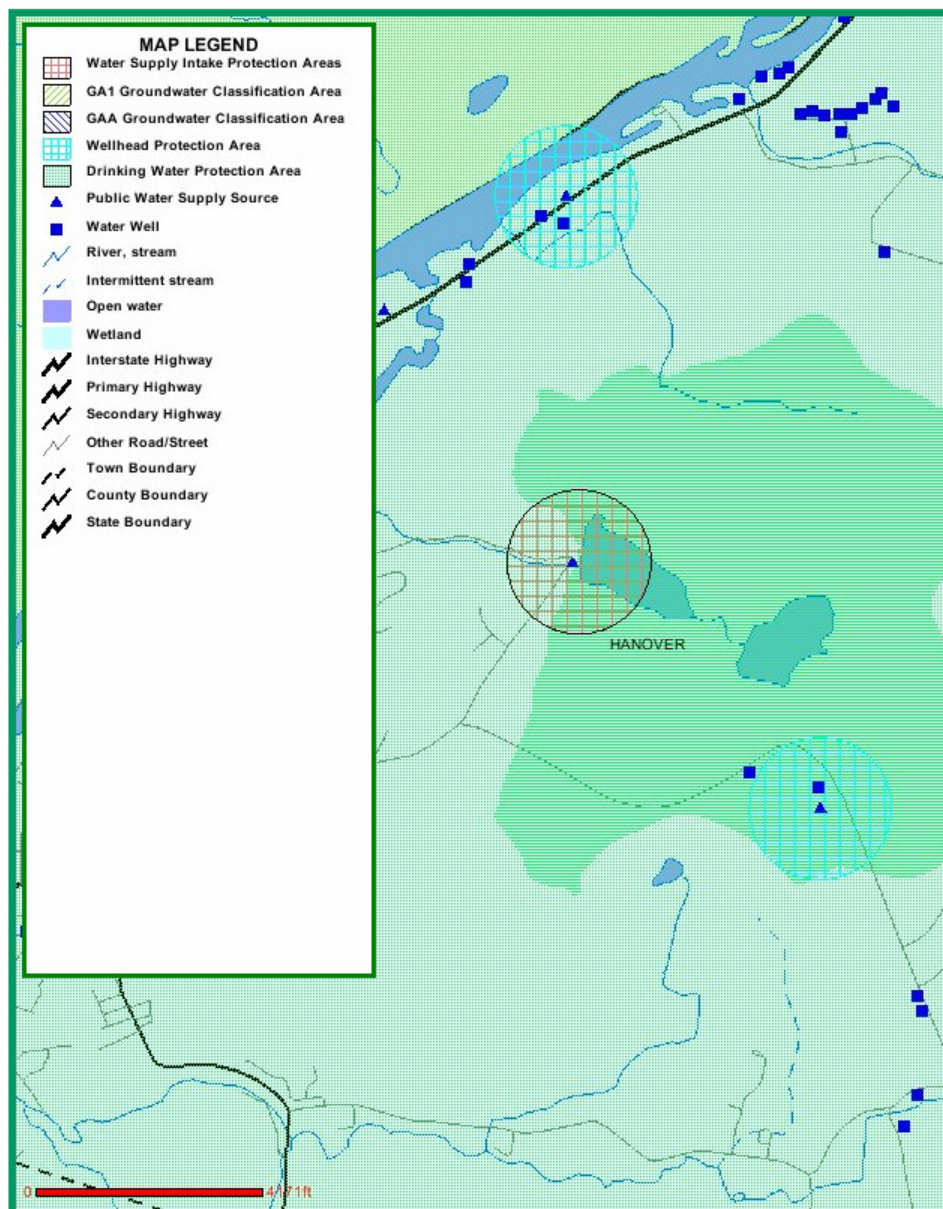
② *“Groundwater protection areas”*

- Wellhead protection areas, reclassified areas

② *“Water supply well setbacks”*

- Minimum protective radius around private and public water supply wells

DES Onestop: <http://hazdessubsit/gis/onestop/>



Map Scale = 1 : 31617 (1" = 0.5 miles or 2635 feet)
X = 843404.88, Y = 454369.72

Other Tools



Map Layer Control

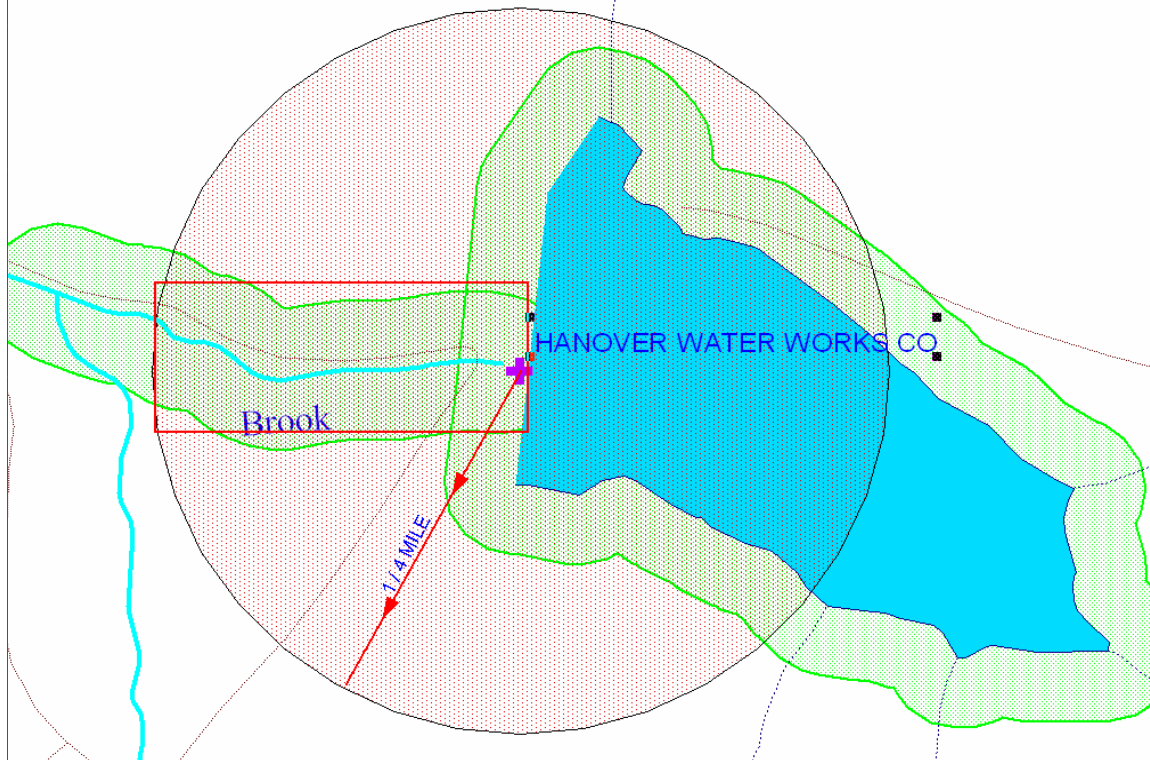
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<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	GA1 Groundwater Classification Ar
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<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Hydrography
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Water Supply Intake Protection Ar
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Roads
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Towns

<http://hazdessubsit/gis/onestop/>

Water Supply Intake Protection Areas

Env-Was 1508.01(a) ...shall not discharge to the surface water that defines the protection area, or to the ground surface, subsurface, or groundwater within 100 feet of that surface water

(1/4 MILE radius from surface intake); and/or 250' from "source" or any tributary within the watershed



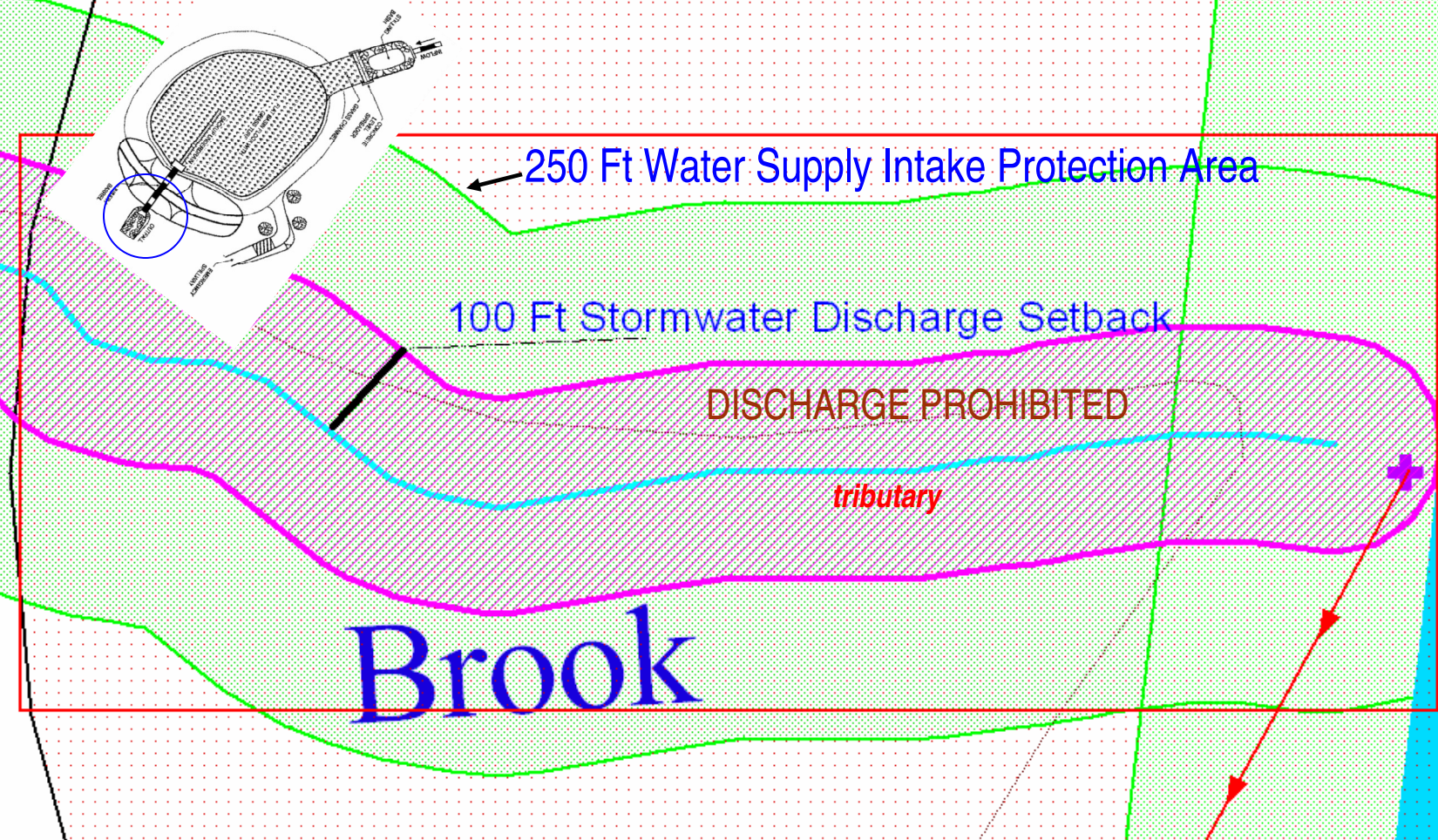
Env-Wq 1508.01 (a) "Water supply intake protection area" means, for a surface water used as a source by a public water system:

- (1) The area within 250 feet of the normal high water mark of the surface water source within one-quarter mile radius of the public water system's intake, excluding areas outside the watershed of the surface water; and
- (2) The area within 250 feet of the normal high water mark of any tributary that is within one-quarter mile radius of the public water system's intake, excluding areas outside the watershed of the surface water.

Applies only to stormwater practices receiving runoff from more than 0.5 acre

W.I.S.P.A – 100 ft discharge setback

Outfall discharge must be > 100 ft from tributary or source



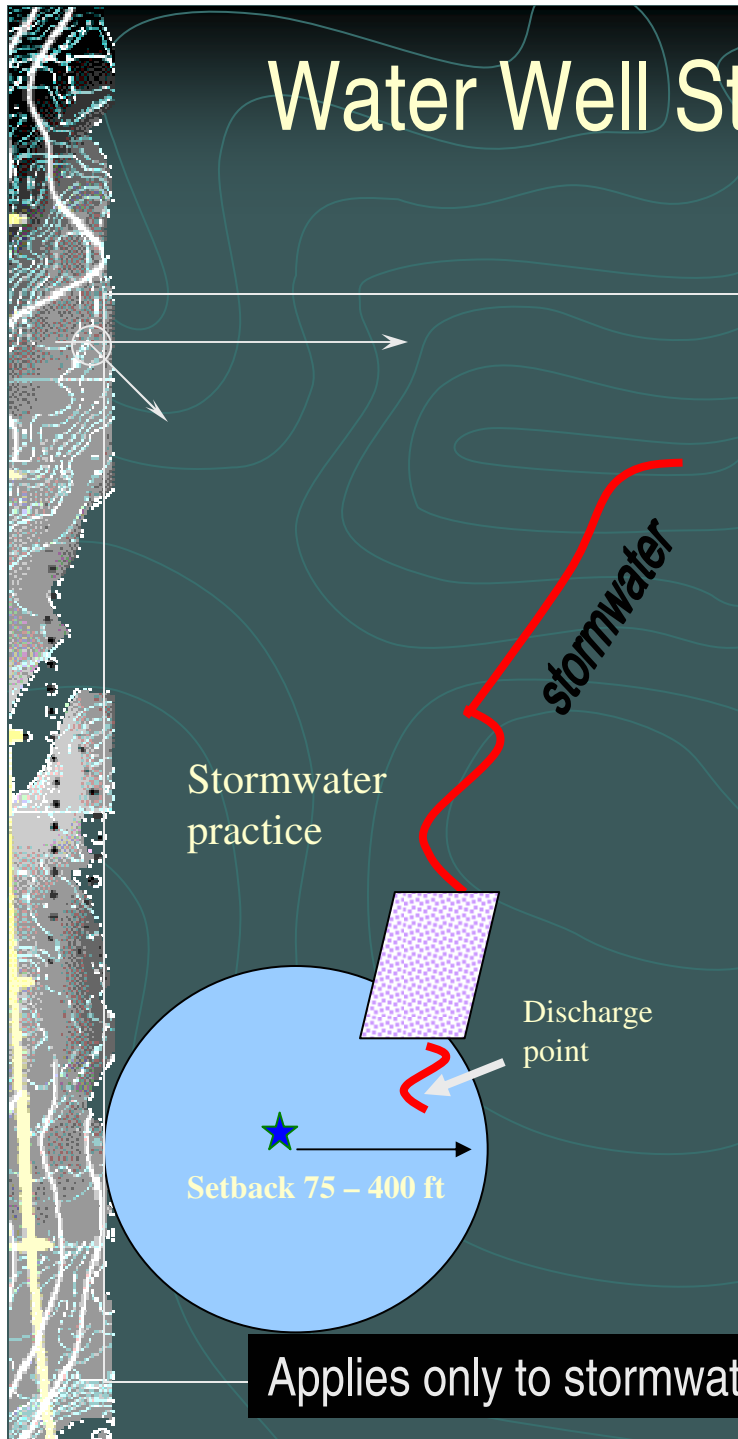
Water Well Stormwater Discharge Setbacks

See Env-Wq 1508.02(a)

- **STORMWATER DISCHARGE SETBACK.** Stormwater practice must not discharge within a 75' to 400' of certain water supply wells.

Table 1508-1: Water Supply Well Set-Backs

Well Type	WHPA Volume (gallons per day)	Setback From Well (feet)
Private Water Supply Well	Any Volume	75
Non-Community Public Water Supply Well	0 to 750	75
	751 to 1,440	100
	1,441 to 4,320	125
	4,321 to 14,400	150
Community Public Water Supply Well	0 to 14,400	150
Non-Community and Community Public Water Supply Well	14,401 to 28,800	175
	28,801 to 57,600	200
	57,601 to 86,400	250
	86,401 to 115,200	300
	115,201 to 144,000	350
	Greater than 144,000	400



Applies only to stormwater practices receiving runoff from more than 0.5 acre